

Please type a plus (+) sign inside this box -

+

PTO/SB/05 REV 1 (12/97)

Approved for use through 09/30/2000. omb 0651-0032  
Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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# UTILITY PATENT APPLICATION TRANSMITTAL

(Only for new nonprovisional applications under 37 CFR 1.53(b))

Attorney Docket No.

SJO920000165US2

First Inventor or Application Identifier

Ho et al

Title

READ HEAD HAVING A TUNNEL JUNCTION SENSOR WITH A  
FREE LAYER BIASED BY EXCHANGE COUPLING WITH  
INSULATING ANTIFERROMAGNETIC (AFM) LAYERS

Express Mail Label No.

EL 749517939 US

## APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

ADDRESS TO:

Mail Stop: Patent Application  
Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

1. ☒ Fee Transmittal Form  
(Submit an original, and a duplicate for fee processing)
2. ☒ Specification [Total Pages 20]  
(preferred arrangement set forth below)
- Descriptive title of the invention
  - Cross References to Related Applications
  - Statement Regarding Fed sponsored R & D
  - Reference to Microfiche Appendix
  - Background of the invention
  - Brief Summary of the invention

- Brief Description of the Drawings (if filed)

- Detailed Description

- Claim(s)

- Abstract of the Disclosure

3. ☒ Drawing(s) (35 USC) 113 [Total Sheets 11]

4. ☒ Oath or Declaration [Total Pages 2]

a. ☐ Newly executed (original or copy)

b. ☒ Copy from a prior application (37 CFR 1.63(d))  
(for continuation/divisional with Box 17 completed)

(Note Box 5 below)

i. ☐ DELETION OF INVENTOR(S)

Signed statement attached in the prior application, see  
37 CFR 1.63(d)(2) and 1.33(b).

5. ☒ Incorporation by Reference (useable if Box 4b is checked)  
The entire disclosure of the prior application, from which a copy  
of the oath or declaration is supplied under Box 4b, is considered  
as being part of the disclosure of the accompanying application  
and is hereby incorporated by reference therein.

6. ☐ Microfiche Computer Program (Appendix)
7. ☐ Nucleotide and/or Amino Acid Sequence Submission  
(if applicable, all necessary)
- a. ☐ Computer Readable Copy
  - b. ☐ Paper Copy (identical to computer copy)
  - c. ☐ Statement Verifying identity

## ACCOMPANYING APPLICATION PARTS

8. ☐ Assignment Papers (cover sheet & document(s))
9. ☐ 37 CFR 3.73(b) Statement  
(when there is an assignee) ☐ Power of Attorney
10. ☐ English Translation Document (if applicable)
11. ☒ Information Disclosure Statements ☐ Copies of  
(IDS) w/PTO-1449 & PTO-892 IDS Citations
12. ☒ Preliminary Amendment
13. ☒ Return Receipt Postcard (MPEP 503)  
(Should be specifically itemized)
14. ☐ Small Entity ☐ Statement filed in prior application,  
Statement(s) ☐ Status still proper and desired
15. ☐ Certified Copy of Priority Document(s)  
(if foreign priority is claimed)
16. ☒ Other: Express Mail Certification

17. If a CONTINUING APPLICATION, check appropriate box and supply the requisite information:

☐ Continuation ☒ Divisional ☐ Continuation-in-part (CIP) of prior application No.: 10/054,656  
Prior application information: Examiner W. J. Klimowicz Group/Art Unit 2652

## 18. CORRESPONDENCE ADDRESS

☐ Customer Number or Bar Code Label or ☒ Correspondence address below

(Insert Customer No. or Attach bar code label here)

ADDRESS

International Business Machines Corporation  
IP Law L2PA/010  
5600 Cottle Road  
San Jose, California 95193

Telephone: 808-661-1197

(Ervin F. Johnston)

FAX: 808-661-9797

COUNTRY

USA

Name (Print/Type)

Ervin F. Johnston

Registration No. (Attorney/Agent)

20,190

Signature

Date

April / 72004

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PTO/SB/17 REV 1 (12/97)

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<div style="text-align: center;"> <b>FEE TRANSMITTAL</b>          Patent fees are subject to annual revision on October 1.          These are the fees effective November 10, 1998.          Small entity payments must be supported by a small entity statement,          otherwise large entity fees must be paid. See Forms PTO/SB/09-12          See 37 C.F.R. §§ 1.27 and 1.28       </div>		Complete If Known																																																																																																	
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1. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge indicated fees and credit any overpayment to:  Deposit Account Number <u>09-0466</u> Deposit Account Name <u>International Business Machines Corp.</u>  <input checked="" type="checkbox"/> Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17 <input type="checkbox"/> Charge the Issue Fee Set in 37 CFR 1.18 at the Mailing of the Notice of Allowance. 37 CFR 1.311(b)		3. <b>ADDITIONAL FEES</b> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Large Entity Fee Code (\$)</th> <th style="text-align: left;">Small Entity Fee Code (\$)</th> <th style="text-align: left;">Fee Description</th> <th style="text-align: left;">Fee Paid</th> </tr> </thead> <tbody> <tr><td>105 130</td><td>205 65</td><td>Surcharge - late filing fee or oath</td><td></td></tr> <tr><td>127 50</td><td>227 25</td><td>Surcharge - late provisional filing or cover sheet</td><td></td></tr> <tr><td>139 130</td><td>139 130</td><td>Non-English specification</td><td></td></tr> <tr><td>147 2,520</td><td>147 2,520</td><td>Request for reexamination</td><td></td></tr> <tr><td>112 920</td><td>112 920</td><td>Requesting publication of SIR prior to Examiner action</td><td></td></tr> <tr><td>113 1,840*</td><td>113 1,840*</td><td>Requesting publication of SIR after Examiner action</td><td></td></tr> <tr><td>115 110</td><td>215 55</td><td>Extension for response within first month</td><td></td></tr> <tr><td>116 420</td><td>216 210</td><td>Extension for response within second month</td><td></td></tr> <tr><td>117 950</td><td>217 475</td><td>Extension for response within third month</td><td></td></tr> <tr><td>118 1,480</td><td>218 740</td><td>Extension for response within fourth month</td><td></td></tr> <tr><td>128 2,010</td><td>228 1,005</td><td>Extension for response within fifth month</td><td></td></tr> <tr><td>119 330</td><td>219 165</td><td>Notice of Appeal</td><td></td></tr> <tr><td>120 330</td><td>220 165</td><td>Filing a brief in support of an appeal</td><td></td></tr> <tr><td>121 290</td><td>221 145</td><td>Request for oral hearing</td><td></td></tr> <tr><td>140 110</td><td>240 55</td><td>Petition to revive unavoidably abandoned application</td><td></td></tr> <tr><td>141 1,330</td><td>241 665</td><td>Petition to revive unintentionally abandoned application</td><td></td></tr> <tr><td>142 1,330</td><td>242 665</td><td>Utility issue fee (or reissue)</td><td></td></tr> <tr><td>143 480</td><td>243 240</td><td>Design issue fee</td><td></td></tr> <tr><td>144 640</td><td>315 320</td><td>Plant issue fee</td><td></td></tr> <tr><td>122 130</td><td>122 130</td><td>Petitions to the Commissioner</td><td></td></tr> <tr><td>126 180</td><td>126 180</td><td>Submission of Information Disclosure Stmt</td><td></td></tr> <tr><td>146 770</td><td>246 385</td><td>Filing a submission after final rejection (37 CFR 1.129(a))</td><td></td></tr> <tr><td>179 770</td><td>249 385</td><td>Request for continued examination (RCE) (37 CFR 1.114)</td><td></td></tr> </tbody> </table>		Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid	105 130	205 65	Surcharge - late filing fee or oath		127 50	227 25	Surcharge - late provisional filing or cover sheet		139 130	139 130	Non-English specification		147 2,520	147 2,520	Request for reexamination		112 920	112 920	Requesting publication of SIR prior to Examiner action		113 1,840*	113 1,840*	Requesting publication of SIR after Examiner action		115 110	215 55	Extension for response within first month		116 420	216 210	Extension for response within second month		117 950	217 475	Extension for response within third month		118 1,480	218 740	Extension for response within fourth month		128 2,010	228 1,005	Extension for response within fifth month		119 330	219 165	Notice of Appeal		120 330	220 165	Filing a brief in support of an appeal		121 290	221 145	Request for oral hearing		140 110	240 55	Petition to revive unavoidably abandoned application		141 1,330	241 665	Petition to revive unintentionally abandoned application		142 1,330	242 665	Utility issue fee (or reissue)		143 480	243 240	Design issue fee		144 640	315 320	Plant issue fee		122 130	122 130	Petitions to the Commissioner		126 180	126 180	Submission of Information Disclosure Stmt		146 770	246 385	Filing a submission after final rejection (37 CFR 1.129(a))		179 770	249 385	Request for continued examination (RCE) (37 CFR 1.114)	
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Typed or Printed Name	Ervin F. Johnston	Reg. Number	20,190																																																																																																
Signature		Date	April 17, 2004																																																																																																

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